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(71) Applicant
**Anthony Close,
21 Longmeadow Rise, Keelby, Grimsby, South
Humberside DN37 8EY**

(72) Inventor
Anthony Close

(74) Agent and/or address for service
**Anthony Close, 21 Longmeadow Rise, Keelby, Grimsby,
South Humberside DN37 8EY**

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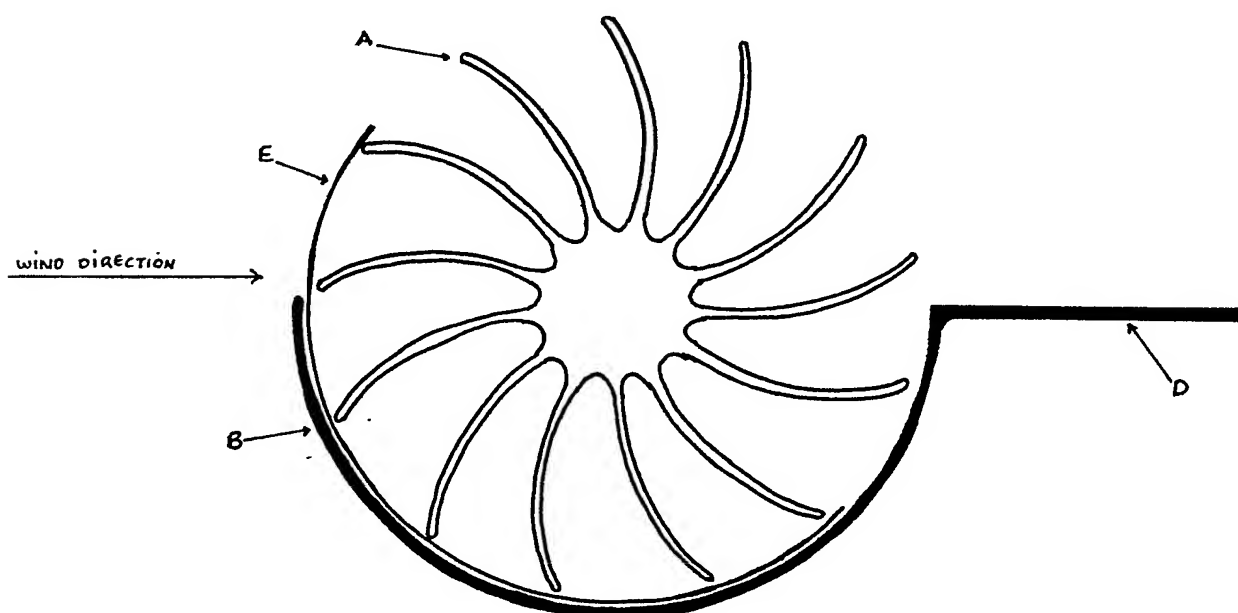
(56) Documents cited
**GB A 2041457
GB 0281360**

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**F1T
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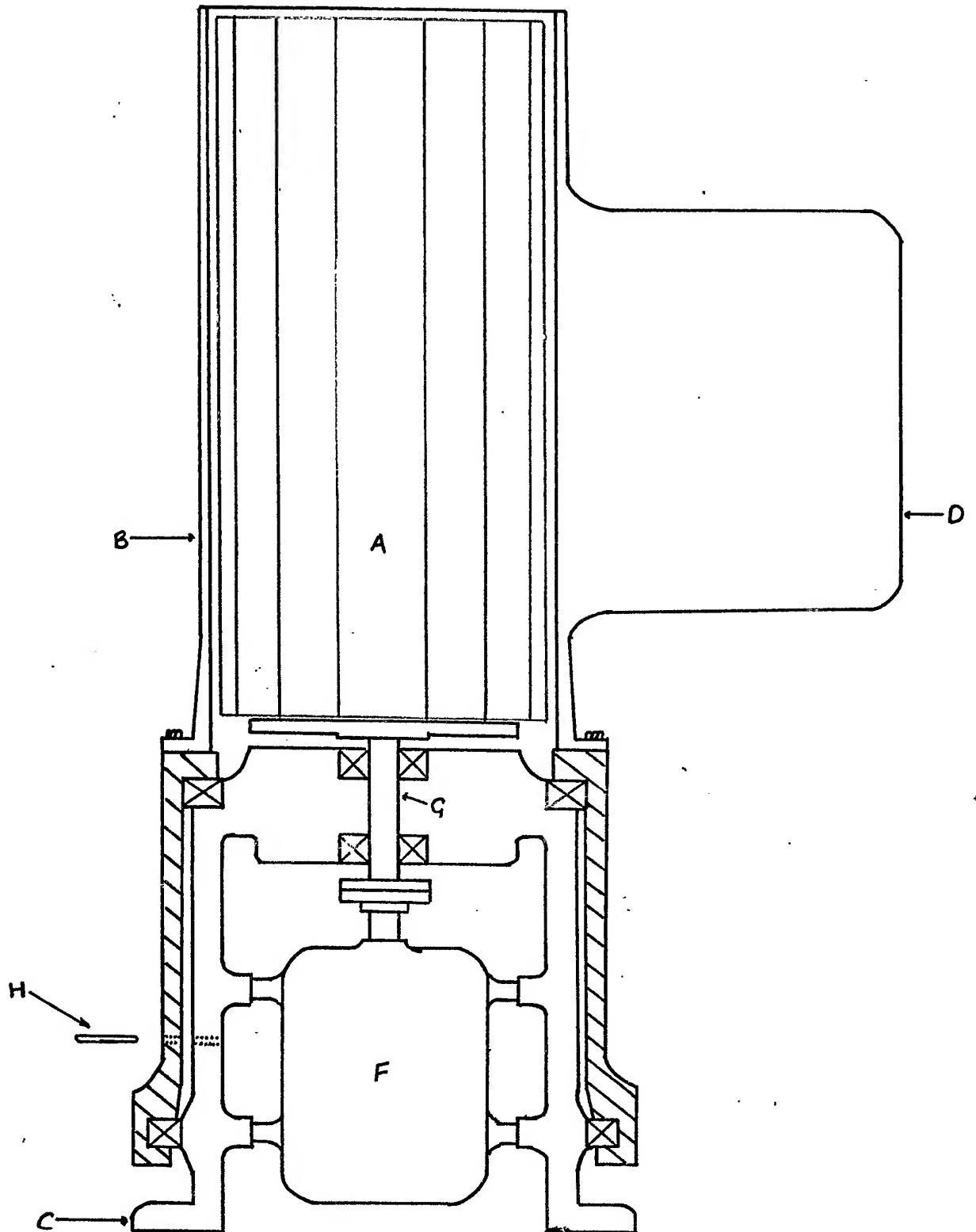
(54) Vertically mounted wind generator

(57) The top section of the deflector B is cut away to 180° thus exposing the rotor to the wind. Changes in the wind direction reposition the deflector by means of a fin "D", the deflector pivoting around the base by means of needle roller bearings. The machine is stopped and started by a sliding skirt which is incorporated within the deflector. This skirt can be operated manually or by a centrifugal trip device in the event of the machine overspeeding.

A flange mounted base "C" incorporates the electrical generator F, and the bearing housing for the drive shaft, which is free to rotate in two sets of bearings. Attached to the drive shaft is the multi bladed rotor "A". A locking pin H secures the machine via a hole in the deflector and a location hole in the base of the machine.

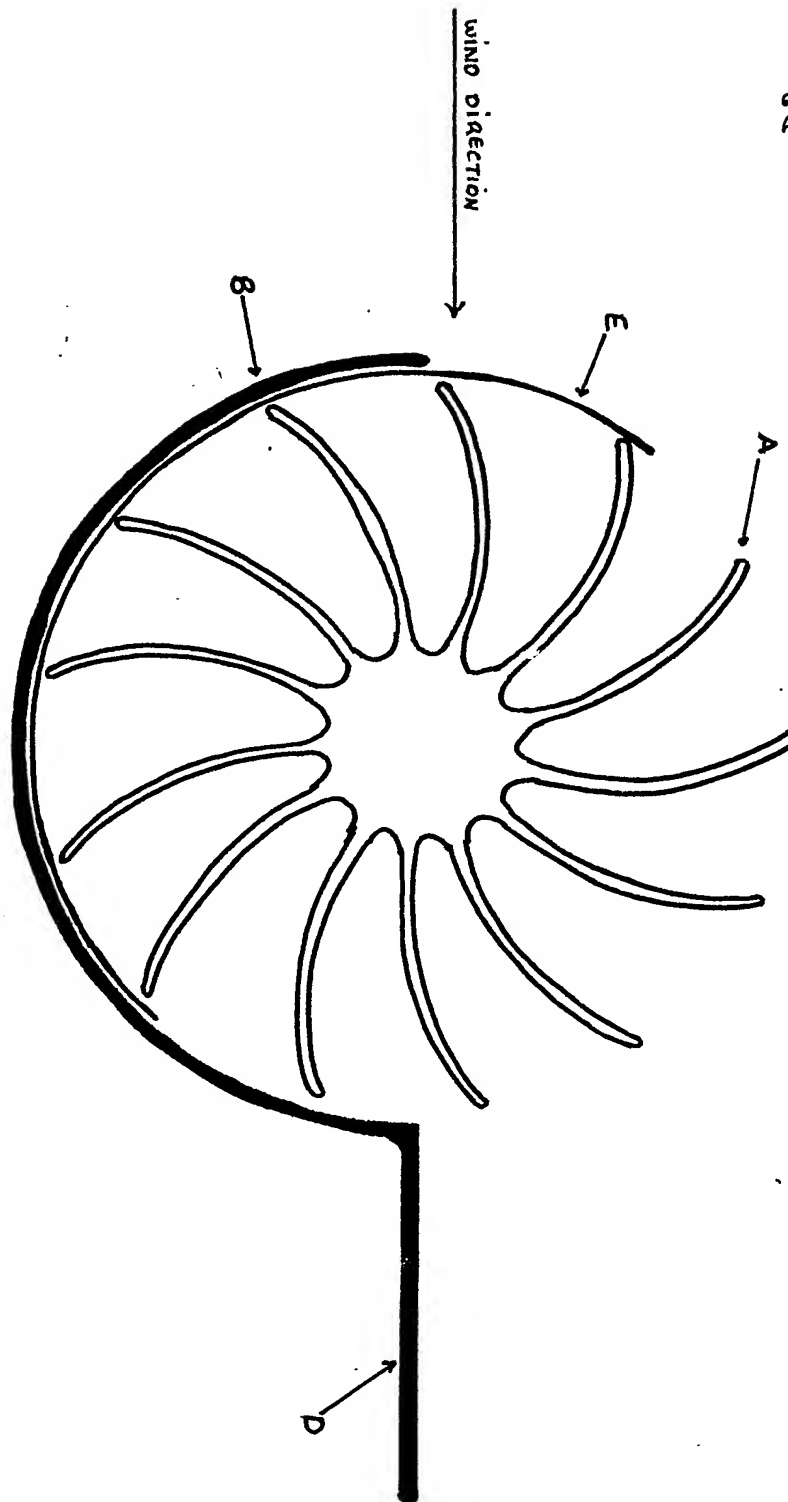


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⊠ BEARING

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SPECIFICATION

Vertically Mounted Wind Generator

This invention relates to a wind driven generator.

The wind driven generators that are commercially
5 available at the present time are of a propeller driven type. Because of this, a large area of floor space is required, not only for the rotation of the propeller blades, but to facilitate any change in wind direction.

10 According to the present invention, the design is to be more compacted and streamline when in operation and during its shut down.

A specific embodiment of the invention will now be described by way of example with reference to
15 the accompanying drawing's in which:—

Figure 1 shows a cross section of the base of the machine *C* and a side elevation of the rotor *A* and wind deflector *B* and positioning fin *D*.

Figure 2 shows a plan view of the rotor. Blade's *A*
20 and the sliding skirt *E* also the area of rotor covered by the wind deflector.

Referring to the drawing, the machinery consists of a vertically mounted multi bladed rotor *A* driving a generator *F* via a drive shaft *G* off which can rotate
25 within two sets of bearings. The wind deflector *B* which pivots around the base of the machine *C* via two sets of needle roller bearings is equipped with a fin *D* so that it is always positioned by the wind direction as shown in Figure 2.

30 The purpose of this deflector is to shield the on coming rotor blades from the force of the wind, when in its running position 180°, therefore the only blades exposed to the wind are rotating in the same direction as the wind. As the wind direction changes
35 so the fin *D* repositions the deflector.

If the machine is to be shut down the deflector is complete to a cylindrical shape 360° by a sliding skirt *E* which slides around the inside of the deflector, both of which are covered in at the top to

40 stop the ingress of any foreign bodies. This skirt shields the rotor from the force of the wind, and in this position a pin *H* locks the deflector to the base of the machine.

A Rotor

45 *B* Deflector

C Base

D Fin

E Sliding Skirt

F Generator

50 *G* Drive Shaft

H Locking Pin

CLAIMS

1. A wind driven generator comprising of a vertically mounted, multi bladed rotor. Around
55 which a deflector covering 180° of the blading, pivots around the base of the machine.

2. A wind driven generator as claim 1 wherein the deflector is provided with a fin to position the deflector according to the wind direction.

60 3. A wind driven generator as claim 1 and 2 wherein the deflector is provided with a sliding skirt which in its running position is incorporated within the deflector. If the machine is shut down, the above mentioned skirt slides around the rotor blades, thus
65 shielding the blades from the force of the wind.

4. A wind driven generator as claim 1 to 3 wherein the sliding skirt can be operated manually, or in the event of the machine overspeeding can be operated by a centrifugal trip device.

70 5. A wind driven generator as claim 1 to 4 wherein a locking pin will secure the deflector to the base off the machine, thus preventing any movement, should the wind direction change while in its shut down position.

75 6. A wind driven generator as claim 1 to 5 wherein the above mentioned deflector and skirt are covered in at the top, to prevent the ingress of foreign bodies while the machine is shut down.

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INVENTOR-INFORMATION:

NAME	COUNTRY
CLOSE, ANTHONY	N/A

ASSIGNEE-INFORMATION:

NAME	COUNTRY
CLOSE ANTHONY	N/A

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ABSTRACT:

The top section of the deflector B is cut away to 180 DEG thus exposing the rotor to the wind. Changes in the wind direction reposition the deflector by means of a fin "D", the deflector pivoting around the base by means of needle roller bearings. The machine is stopped and started by a sliding skirt which is incorporated within the deflector. This skirt can be operated manually or by a centrifugal trip device in the event of the machine overspeeding.

A flange mounted base "C" incorporates the electrical generator F, and the bearing housing for the drive shaft, which is free to rotate in two sets of bearings. Attached to the drive shaft is the multi bladed rotor "A". A locking pin H secures the machine via a hole in the deflector and a location hole in the base of the machine. □